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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/649,569	08/28/2000	Satyadev R. Patel	P6-US	1795

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[REDACTED] EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 12/19/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/649,569	PATEL ET AL.
<b>Examiner</b>	<b>Art Unit</b>	
Allan W. Olsen	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 28 August 2000 .

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-73 is/are pending in the application.  
4a) Of the above claim(s) 22-37 and 73 is/are withdrawn from consideration.

5)  Claim(s) 45 and 46 is/are allowed.

6)  Claim(s) 1-21,38,42-44 and 47-72 is/are rejected.

7)  Claim(s) 39-41 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4,6)  Other: \_\_\_\_\_

### **DETAILED ACTION**

The numbering of claims is not in accordance with 37 CFR 1.126. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). The originally filed claims did not include a claim 56.

Misnumbered claims 57-74 been renumbered 56-73.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-21 and 38-72, drawn to apparatus claims, classified in class 156, subclass 345.33.
- II. Claims 22-37 and 73, drawn to an etching method, classified in class 216, subclass 073.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case The apparatus could be used in a coating process rather than an etching process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Gregory Muir on February 4, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21 and 38-72. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21-37 and 73 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 12 requires the source chamber to include a gas spreading means, such as the baffle of claim 13 or the perforated plate of claim 14. The specification describes an apparatus in which these

components are present within the etching chamber rather than the source chamber (see reference numbers 15-17 of figure 1).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Recent Statutory Changes to 35 U.S.C. § 102(e)**

On November 2, 2002, President Bush signed the 21st Century Department of Justice Appropriations Authorization Act (H.R. 2215) (Pub. L. 107-273, 116 Stat. 1758 (2002)), which further amended 35 U.S.C. § 102(e), as revised by the American Inventors Protection Act of 1999 (AIPA) (Pub. L. 106-113, 113 Stat. 1501 (1999)). The revised provisions in 35 U.S.C. § 102(e) are completely retroactive and effective immediately for all applications being examined or patents being reexamined. Until all of the Office's automated systems are updated to reflect the revised statute, citation to the revised statute in Office actions is provided by this attachment. This attachment also substitutes for any citation of the text of 35 U.S.C. § 102(e), if made, in the attached Office action.

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 in view of the AIPA and H.R. 2215 that forms the basis for the rejections under this section made in the attached Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 prior to the amendment by the AIPA that forms the basis for the rejections under this section made in the attached Office action:

**A person shall be entitled to a patent unless –**

**(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.**

For more information on revised 35 U.S.C. § 102(e) visit the USPTO website at [www.uspto.gov](http://www.uspto.gov) or call the Office of Patent Legal Administration at (703) 305-1622.

Claims 1, 2, 5, 6, 10, 12, 14-21, 38, 47-52, 54, 55, 68-72 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 09251981 (hereinafter, Kurihara).

Kurihara teaches a substrate processing apparatus with a gas recirculation system. The recirculation system includes a filter and an in-line pump for continuous recirculation of processing gases. Additionally, the apparatus includes: plasma generation means; a perforated plate gas distribution means. See reference numbers 107, 111, 113, 105, 203 and 302 in figures 1, 3, 5 and 7-9.

Claims 1-5, 10, 11, 15-21, 38, and 47-72 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,277,173 issued to Sadakata et al. (hereinafter, Sadakata).

Sadakata teaches a substrate processing apparatus with a gas recirculation system. The recirculation system includes a filter and a first in-line pump for continuous recirculation of processing gases as well as a second pump. Additionally, the apparatus includes: a gas expansion chamber; plasma generation means. See: column 5, lines 16-47; column 6, line 56 - column 7, line 58; figures 5 and 6.

Claims 1, 2, 6, 7, 10, 12, 13 and 15-21, 47-49, 51, 54 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,206,471 issued to Smith.

Claims 42-44 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,088,898 issued to Fukumoto et al. (hereinafter Fukumoto).

Fukumoto teaches a reciprocating, dual chamber, bellows pump with each chamber having inlet and outlet valves that may be regulated. See figure 3 and column 5, line 65 - column 6, line 33.

Claims 42-44 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,558,506 issued to Simmons et al. (hereinafter Simmons).

Simmons teaches a reciprocating, dual chamber, bellows pump with each chamber having inlet and outlet valves that may be regulated. See figures 1-4, 7-10 and 13 and columns 5-7.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied to claim 7 above and further in view of either Fukumoto or Simmons.

Smith does not teach using a bellows pump.

Both Fukumoto and Simmons teach the use of a bellows pump.

It would have been obvious for one skilled in the art to use the bellows pump of Simmons or Fukumoto in the apparatus of Smith because of both Simmons and Fukumoto teach a pump which reduced pressure surges in the gas line.

### ***Allowable Subject Matter***

Claims 45 and 46 are allowed.

Claims and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 703-306-9075. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Mills, can be reached on 703-308-1633.

The general fax numbers for TC1700 are 703-872-9310 (non-after finals) and 703-872-9311(after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.  
December 16, 2002

A handwritten signature in black ink, appearing to read "Allan Olsen". The signature is fluid and cursive, with "Allan" on the left and "Olsen" on the right.